

TREATMENT PROTOCOL: NERVE AGENT EXPOSURE

1. Contact HazMat resources according to provider agency protocol
2. Secure area, establish incident site, and don protective equipment/gear appropriate for hazardous material exposure according to the provider agency protocol
3. If more than 2 victims, refer to Ref. No. 519.4, MCI Field Decontamination Guidelines
4. **ESTABLISH BASE or MEDICAL ALERT CENTER (MAC) CONTACT**

-Provide important scene information such as the type of decontamination performed, signs/symptoms, smells, properties of contaminant (e.g., solid, liquid, gas)
-If there are multiple symptomatic patients with more than 50 victims involved, an EMS Chempack can be requested from the Medical Alert Center

-For **severe exposure, begin treatment immediately** prior to decontamination and **transport after decontamination procedures are completed**

-For **mild and moderate exposure, ensure decontamination** procedures are completed **before treatment or transport to facility** ❶

MILD EXPOSURE: miosis, rhinorrhea and increased salivation:

DuoDote (atropine 2.1mg and pralidoxime chloride 600mg) or **Mark I Kit** 1 dose IM ❷



Pediatrics: AtroPen® only see Pediatric (Color Code) Dosages for Nerve Agent Exposure ❸ ❹

MODERATE EXPOSURE: miosis, rhinorrhea, shortness of breath and/or vomiting and diarrhea:

DuoDote or **Mark I kit** 2 doses IM one after another ❷ ❹



Pediatrics: See Pediatric (Color Code) Dosages for Nerve Agent Exposure ❸ ❹

SEVERE EXPOSURE: respiratory distress, respiratory arrest, cyanosis, extreme SLUDGE (salivation, lacrimation, urination, defecation, gastrointestinal distress and emesis) seizures, unconsciousness

DuoDote or **Mark I kit** 3 doses IM one after another ❷ ❹



Pediatrics: See Pediatric (Color Code) Dosages for Nerve Agent Exposure ❸ ❹

Midazolam (or if available, see Diazepam below)

2-5mg IV titrated to seizure control

5mg IN or IM if unable to obtain venous access

May repeat one time in 5min, maximum total adult dose 10mg all routes



Pediatrics: See Pediatric (Color Code) Dosages for Nerve Agent Exposure ❹

Diazepam (if available)

10mg IM or 5-10mg IV



Pediatrics: See Pediatric (Color Code) Dosages for Nerve Agent Exposure ❹

Once resources allow, perform:

5. Basic airway
6. Spinal immobilization prn
7. Oxygen/pulse oximetry
8. Advanced airway prn
9. Cardiac monitor: document rhythm and attach ECG strip if dysrhythmia identified
10. Venous access prn
11. If hypotensive,

Normal Saline fluid challenge




10ml/kg IV at 250ml increments

Use caution if rales present



Pediatrics: 20ml/kg IV

TREATMENT PROTOCOL: NERVE AGENT EXPOSURE**SPECIAL CONSIDERATIONS**

- ❶ If eye involvement: continuous flushing with NS during transport; allow patient to remove contact lenses, if possible
- ❷ Administer additional DuoDotes or Mark I kits for a total of 3, if symptoms progress in MILD or MODERATE exposures
- ❸  **Pediatrics:** 1 DuoDote or Mark I kit can be given to any child, regardless of age or weight, as the initial antidote therapy when no other atropine or pralidoxime source is available
- ❹ Pralidoxime Chloride (2PAM) is available in EMS Chempack, for moderate and severe symptoms only
 **Pediatrics:** See Pediatric (Color Code) Dosages for Nerve Agent Exposure
- ❺  **Pediatrics:** If the child is too tall for the pediatric resuscitation tape and adult size, move to the Adult protocol and Adult dosing

Pediatric (Color Code) Dosages for Nerve Agent Exposure (Confirmed or Highly Suspected)

Mild to Moderate Exposure

Avg Wt (KG)	Color	Initial AtroPen® Dose*	Repeat AtroPen® Dose*
4	Grey	0.5 mg	0.5 mg
6.5	Pink	0.5 mg	1 mg
8.5	Red	0.5 mg	1 mg
10.5	Purple	0.5 mg	1 mg
13	Yellow	1 mg	1 mg + 0.5 mg
16.5	White	1 mg	2 mg
20.5	Blue	1 mg	2 mg
26	Orange	1 mg + 0.5 mg	2 mg + 2 mg
33	Green	1 mg + 0.5 mg	2 mg + 2 mg

* Atropine auto-injectors (AtroPen®) come in 0.5 mg, 1 mg and 2 mg devices. Initial dosage based off of 0.05 mg/kg, repeat dosage based off of 0.1 mg/kg. May repeat every 5 minutes until secretions begin to dry or maximum 6 mg IM.

If the child is too tall for the pediatric resuscitation tape and adult size, move to the Adult protocol and Adult dosing

Severe Exposure

Avg Wt (KG)	Color	Initial Emergency Dose*	Midazolam** (0.1 mg/kg)
4	Grey	1 DuoDote® or 1 Mark I Kit	0.4 mg IV
6.5	Pink		0.6 mg IV
8.5	Red		0.8 mg IV
10.5	Purple		1 mg IV
13	Yellow		1.3 mg IV
16.5	White		1.6 mg IV
20.5	Blue		2 mg IV
26	Orange	2 DuoDotes or 2 Mark I Kits	2.6 mg IV
33	Green		3.3 mg IV

*DuoDote or Mark I kit -in 60 minute time frame (~2mg Atropine/600 mg 2PAM Chloride)

**IV preferred route but can administer 5mg IM or IN, if no IV available. May repeat one time in 5 min, maximum total pediatric dose 5mg all routes

If the child is too tall for the pediatric resuscitation tape and adult size, move to the Adult protocol and Adult dosing

EMS CHEMPACK Deployment (Ref. No. 1108)

Avg Wt (KG)	Color	Atropine*		2PAM Chloride** (IM or IV)	Diazepam***
		AtroPen® Dose (IM Only)	Multi-dose vial (0.1mg/kg) (IM or IV)	Multi-dose vial (50 mg/kg)	Multi-dose vial (0.1 mg/kg)
4	Grey	0.5 mg	0.4 mg	200 mg	0.4 mg IV
6.5	Pink	1 mg	0.7 mg	325 mg	0.7 mg IV
8.5	Red	1 mg	0.9 mg	425 mg	0.9 mg IV
10.5	Purple	1 mg	1 mg	525 mg	1 mg IV
13	Yellow	1 mg + 0.5 mg	1.3 mg	650 mg	1.3 mg IV
16.5	White	2 mg	1.6 mg	825 mg	1.6 mg IV
20.5	Blue	2 mg	2 mg	1025 mg (1000 mg IV)	2 mg IV
26	Orange	2 mg + 2 mg	2.6 mg	1300 mg (1000 mg IV)	2.6 mg IV
33	Green	2 mg + 2 mg	3.3 mg	1650 mg (1000 mg IV)	3.3 mg IV

*After initial dose (5 minutes after AtroPen or 60 minutes after Initial Emergency DuoDote) Atropine auto-injectors

(AtroPen®) come in 0.5 mg , 1 mg and 2 mg devices . Multi-dose vials can provide closer to ideal dosages, if available

**Initial dose if only AtroPens were used or repeat dose (60 minutes after Initial Emergency DuoDote)

*** IV preferred route but can administer 5mg IM , if no IV available. May repeat one time in 5 min, maximum total pediatric dose 5mg all routes

If the child is too tall for the pediatric resuscitation tape and adult size, move to the Adult protocol and Adult dosing